

CLAIMS

1. An adaptable power management system, said system comprising:
a measurement unit for measuring current in an imaging system;
5 a main system power for providing power to the imaging system for core system functions;
a battery charger for recharging a battery used for imaging; and
a power controller for allocating power among the main system power and the battery charger based on a current measurement from the measurement unit.
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2. The system of claim 1, wherein the measurement unit measures at least one of current and voltage at a plurality of points in the imaging system.
3. The system of claim 1, wherein the power controller controls battery
15 charging current after main system power has been allocated.
4. The system of claim 1, further comprising at least one component providing additional function in the imaging system.
- 20 5. The system of claim 4, wherein the power controller allocates power among the at least one component.
6. The system of claim 1, wherein the power controller dynamically allocates power within a power limit.
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7. A method for dynamic power management in an imaging system, said method comprising:
measuring current input in an imaging system; and
allocating power in the imaging system based on a system configuration and the
30 current input in the imaging system.

8. The method of claim 7, wherein the measuring step further comprises measuring at least one of voltage and current at a plurality of locations in the imaging system.
- 5 9. The method of claim 7, wherein the allocating step further comprises dynamically allocating power based on system usage.
- 10 10. The method of claim 7, further comprising re-allocating power in the imaging system based on a change in configuration.
- 11 11. The method of claim 7, further comprising re-allocating power in the imaging system based on current consumption exceeding a predefined limit.
- 15 12. The method of claim 7, further comprising allocating available current to a battery charger.
- 13 13. The method of claim 7, further comprising maintaining at least a minimum level of power for basic imaging system functions.
- 20 14. The method of claim 7, further comprising controlling an amount of current drawn by components in the imaging system.
- 25 15. A power management system for an imaging system comprising:
a power input providing power to an imaging system;
at least one measurement unit for measuring current in the imaging system; and
a power management controller allocating available power among components in the imaging system.
- 30 16. The system of claim 15, wherein the power management controller allows a battery for the imaging system to charge at a maximum rate based on current consumption by the components in the imaging system.

17. The system of claim 15, wherein the at least one measurement unit measures a voltage and a current for the power provided to the imaging system.

5 18. The system of claim 15, wherein the power management controller controls current drawn by the components in the imaging system.

19. The system of claim 15, further comprising a limit sensor for detecting when current consumption exceeds a certain limit.

10 20. The system of claim 15, further comprising at least one switching unit controlled by the power management controller, wherein the at least one switching unit controls an amount of power routed to at least one component in the imaging system.